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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/079,443      | 02/19/2002  | Ying Ma              | 46847-00007         | 9165             |

7590 06/03/2005

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EXAMINER

WEBMAN, EDWARD J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1616

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/079,443

Applicant(s)

MA ET AL.

Examiner

Edward J. Webman

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 16-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1616

Claims 1-38 are pending. Claims 16-38 are withdrawn from prosecution.

Applicants argue that claims 1-15 should have been considered in the previous action. However, applicants elected water as the second solvent, therefore, claims 11-15, directed to the non-elected sec-butanol, were withdrawn from consideration. However, the election of species over the second solvent is withdrawn in view of the following rejection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6-9, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narula et al (US 6,146,602) in view of Benazzi et al (US 5,695,735). Narula et al teaches a method of making mesoporous aluminum oxide molecular sieves by a sol-gel technique using a neutral surfactant with alkoxides, water and an alcohol, preferably sec-butanol (abstract). Polyethylene oxide containing surfactants such as a Pluronic are specified (column 3 lines 41-49). A ratio of 1 alkoxide:0.1 Pluronic: 2 water: sec-butanol 25% is disclosed (column 5 lines 29-32). Dissolving the alkoxide and Pluronic, stirring, addition of a second solvent, mixing, standing overnight, filtering, and washing is specified (example 1 column 7 et seq.). Applicants disclose pyrolyzing at 500-600 degrees C as their claimed evaporation step (page 11 lines 4-7). The surfactant acts as a structuring agent (column 6 lines 25-29). However, Narula et al do not teach aging for 2-7 days.

Benazzi et al teach a process for synthesis of mesoporous solids including alumina or silica comprising including a structuring agent and heating to a range of 20-200 degrees C for a period of several minutes to several days (abstract). Improved stability is disclosed (column 3 lines 10-15, column 1 lines 27-47). An organic structuring agent is specified (column 3 line s 36-27).

It would have been obvious to one of ordinary skill to modify the process of Narula et al to include heating at a range of 20-200 degrees C over a period of several minutes to several days rather than standing overnight to achieve the beneficial effect of improved stability in view of Benazzi et et al. As to the claimed aging, applicants disclose this step as heating from 70-95 degrees C for 2-7 days, which overlaps the ranges temperature and time of Benazzi et al. As to the claimed washing, filtering and drying steps, Narula et al teach washing and filtering; the positioning of these steps and the addition of a drying step are immaterial variations to the Narula et al method. As to the particular claimed amounts of solvents, it is argued that one of ordinary skill could arrive at optimum amounts by routine experimentation, absent a showing that such amounts are critical.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "of step D" in claim 1 line 11 has no antecedent; it appears that the label "(D)" is missing from the immediately preceding step.

No claims allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward J. Webman whose telephone number is 571-272-0633. The examiner can normally be reached on M-F from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, G. Kunz, can be reached on 571-272-0887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**EDWARD J. WEBMAN**  
**PRIMARY EXAMINER**  
**GROUP 1500**